## Claims

- 1. Apparatus for assisting a rescuer in performing CPR on a victim, the apparatus comprising:
- at least one of a pulse sensor for measuring the pulse rate of the victim and an SpO2 sensor for measuring blood oxygenation;

electronics for processing the output of the sensor or sensors and determining one or more actions that the rescuer should perform to improve the CPR being performed; and

a prompting device for conveying the one or more actions to the rescuer.

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- 2. The apparatus of claim 1 further comprising an external defibrillator.
- 3. The apparatus of claim 1 wherein the apparatus comprises an SpO2 sensor but not a pulse sensor.

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- 4. The apparatus of claim 1 wherein the apparatus comprises a pulse sensor but not an SpO2 sensor.
  - 5. The apparatus of claim 1 further comprising a chest compression sensor.

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- 6. The apparatus of claim 5 wherein the chest compression sensor is an acclerometer.
- 7. The apparatus of claim 1 wherein the electronics is provided with information on compression rate.
  - 8. The apparatus of claim 7 wherein the compression rate is sensed or derived from a chest compression sensor.
- 9. The apparatus of claim 1 wherein the prompting device comprises a device that conveys a desired rate of compression to the rescuer.

- 10. The apparatus of claim 9 wherein the device that conveys a desired rate of compression to the rescuer comprises a metronome.
- 5 11. The apparatus of claim 1 wherein the prompting device comprises a speaker and associated electronics for conveying audible instructions.
  - 12. The apparatus of claim 1 wherein the electronics comprises a digital computer executing computer software.
- 13. The apparatus of claim 1 wherein the electronics compares compression rate to a desired CPR rate.
- 14. The apparatus of claim 1 wherein the electronics compares a measured levelof blood oxygenation to a desired level.
  - 15. The apparatus of claim 1 wherein the electronics provides a prompt instructing the rescuer to release from the chest during CPR delivery if the sensors indicate that the rescuer is not adequately releasing from the chest
  - 16. The apparatus of claim 1 wherein the electronics provides a prompt to the user to press harder if the pulse sensor indicates that there is no measured pulse rate.
- 17. The apparatus of claim 1 wherein the electronics provides a prompt to press 25 harder if the sensor indicate that a pulse is detected but SpO2 is below a defined level.
  - 18. The apparatus of claim 1 wherein the electronics provides a prompt to increase compression rate if the sensors indicate that a pulse is detected, that chest compressions are at a defined level, and that SpO2 is still below a defined level.

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- 19. The apparatus of claim 1 wherein the electronics provides prompts to increase compression rate and compression pressure simultaneously based on measurements from sensors.
- 5 20. The apparatus of claim 1 wherein the electronics provides a prompt for the user to interrupt chest compressions to give one or more breaths.

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- 21. The apparatus of claim 20 wherein the prompt to give one or breaths is issued when sensor measurements show that blood circulation is occurring and that the cause of a falling SpO2 level may be an increase in metabolism.
- 22. The apparatus of claim 1 wherein the electronics provide a prompt to continue CPR without interruption for breathing based on SpO2 levels that were above a given threshold so as to ensure that there would be no break in circulation when blood oxygen levels remained high and ventilation was not yet required.